CLAIMS

1.   A system for searching a bioinformatics data collection, said system comprising:

an organizer configured to receive search requests, said organizer comprising:

a bioinformatics data collection having at least two entries;

5   wherein the bioinformatics data collection is organized into at least two taxonomies;

wherein each of the at least two taxonomies is associated with at least two categories;

wherein the entries correspond to at least one of the at least two taxonomies and also

correspond to at least one of the at least two categories; and

a search engine in communication with the electronic product catalog,

10   wherein said search engine is configured to search based on the at least two taxonomies

and based on the at least two categories,

wherein the search engine returns, in response to a search request identifying at least a first

taxonomy of the at least two taxonomies, a list of the categories associated with the at least first

identified taxonomies, along with the number of entries associated with each of the categories

15   associated with the at least first identified taxonomies.

2.   The system according to Claim 1, wherein the returned list of categories associated

2   with the at least one first taxonomies, along with the number of entries associated with each of the

3   categories associated with the identified taxonomies can be further searched with regard to at least

4   a second taxonomy of the at least two taxonomies, whereby the search engine returns, in response

5   to a search request identifying the at least second taxonomies of the at least two taxonomies, a list

6   of the categories associated with both identified taxonomies, along with the number of entries

7   associated with each of the categories associated with the second taxonomies.

3. The system according to Claim 1, wherein the search engine, having returned, in response to a search request identifying at least a first taxonomy of the at least two taxonomies, a list of the categories associated with the identified taxonomies, along with the number of entries associated with each of the categories associated with the identified taxonomies, will provide only those categories with a non-zero number of entries associated with the identified taxonomies and will further return sub-categories both associated with the category and having a non-zero number of entries associated with the sub-category.

4. The system according to Claim 3, wherein the search engine, having further returned sub-categories both associated with the category and having a non-zero number of entries associated with the sub-category, will, in response to a search request identifying at least a second taxonomy of the at least two taxonomies, provide a list of the categories with a non-zero number of entries associated with the at least second identified taxonomies, along with the number of entries associated with each of the categories associated with the at least second identified taxonomies.

5. The system according to Claim 1, wherein the search engine, having returned, in response to a search request identifying at least a first taxonomy of the at least two taxonomies, a list of the categories associated with the identified taxonomies, along with the number of entries associated with each of the categories associated with the identified taxonomies, will, in response to a string query, provide those entries which both contain the string and are associated with the identified taxonomies.

6. The system according to Claim 5, wherein the string is one member of the group consisting of text, image, and graphic.

1   7.   The system according to Claim 1, wherein the system comprises a network of

2   computers.

1   8.   The system according to Claim 1, wherein the system comprises a single computer.

1   9.   The system according to Claim 1, wherein the system further comprises a cache

2   which stores the returned results of the search engine for rapid retrieval.

1   10.   The system for searching an electronic product catalog according to Claim 1,

2   wherein at least one taxonomy of the at least two taxonomies is selected from the group consisting

3   of organism, biological process, molecular function, species, and cellular component.

1   11.   A system for searching a bioinformatics collection, said system comprising:

2   means for networking a plurality of computers; and

3   means for organizing executing in said computer network and configured to receive search

4   requests from any one of said plurality of computers, said means for organizing comprising:

5   a bioinformatics collection having at least two entries;

6   wherein the bioinformatics collection is organized into at least two taxonomies;

7   wherein each of the at least two taxonomies is associated with at least two categories;

8   wherein the entries correspond to at least one of the at least two taxonomies and also

9   correspond to at least one of the at least two categories; and

10   means for searching in communication with the bioinformatics collection,

11   wherein said means for searching is configured to search based on the at least two

12   taxonomies and based on the at least two categories,

13   wherein the means for searching returns, in response to a search request identifying at least

14   one of the at least two taxonomies, a list of the categories associated with the identified

15   taxonomies, along with the number of entries associated with each of the categories associated

16   with the identified taxonomies.

1   12.   The system according to Claim 11, wherein the returned list of categories

2   associated with the at least first taxonomy, along with the number of entries associated with each

3   of the categories associated with the identified taxonomies can be further searched with regard to

4   at least a second of the at least two taxonomies, whereby the means for searching returns, in

5   response to a search request identifying the at least second taxonomy of the at least two

6   taxonomies, a list of the categories associated with all identified taxonomies, along with the

7   number of entries associated with each of the categories associated with the at least second

8   taxonomy.

1   13.   The system according to Claim 11, wherein the means for searching, having

2   returned, in response to a search request identifying at least a first taxonomy of the at least two

3   taxonomies, a list of the categories associated with the identified taxonomies, along with the

4   number of entries associated with each of the categories associated with the identified

5   taxonomies, will provide only those categories with a non-zero number of entries associated with

6   the identified taxonomies and will further provide sub-categories associated with the category and

7   having a non-zero number of entries associated with the sub-category.

1   14.   The system for searching an electronic product catalog according to Claim 11,

2   wherein the means for searching, having further returned sub-categories both associated with the

3   category and having a non-zero number of entries associated with the sub-category, will, in

4   response to a search request identifying at least a second taxonomy of the at least two taxonomies,

5   provide a list of the categories with a non-zero number of entries associated with the at least

6 second identified taxonomy, along with the number of entries associated with each of the

7 categories associated with the at least second identified taxonomy.

1 14. The system according to Claim 13, wherein the means for searching, having

2 returned, in response to a search request identifying at least a first taxonomy of the at least two

3 taxonomies, a list of the categories associated with the identified taxonomies, along with the

4 number of entries associated with each of the categories associated with the identified

5 taxonomies, will, in response to a string query, provide those entries which both contain the string

6 and are associated with the identified taxonomies.

1 15. The system according to Claim 11, wherein the string is one member of the group

2 consisting of text, image, and graphic.

1 16. The system according to Claim 11, wherein the system comprises a network of

2 computers.

1 17. The system according to Claim 11, wherein the system comprises a single

2 computer.

1 18. The system according to Claim 11, wherein the system further comprises a cache

2 which stores the returned results of the means for searching for rapid retrieval.

1 19. The system according to Claim 11, wherein at least one taxonomy of the at least

2 two taxonomies is selected from the group consisting of organism, biological process, molecular

3 function, species, and cellular component.

1 20. A method for searching a bioinformatics collection, said method comprising:

2 communicating a search request to a search engine, the search engine being in

3 communication with a bioinformatics collection;

4 wherein the bioinformatics collection has at least two entries;

54

5   wherein the bioinformatics collection is organized into at least two taxonomies;

6   wherein each of the at least two taxonomies is associated with at least two categories;

7   wherein the at least two entries correspond to at least one of the at least two taxonomies

8   and also correspond to at least one of the at least two categories;

9   querying of the bioinformatics collection by the search engine based on the communicated

10   search request;

11   wherein the communicated search request identifies at least one of the at least two

12   taxonomies;

13   returning of a list of the categories associated with the at least one identified taxonomy,

14   along with the number of entries associated with each of the categories associated with the at least

15   one identified taxonomy as a response to the querying of the bioinformatics collection.

21   21. The method according to Claim 20, wherein the method further comprises

2   returning, in response to a search request identifying at least a second taxonomy of the at

3   least two taxonomies, a list of the categories associated with all identified taxonomies, along with

4   the number of entries associated with each of the categories associated with the at least second

5   taxonomy.

1   22. The method according to Claim 20, wherein the method further comprises

2   returning a list of only those categories with a non-zero number of entries associated with

3   the identified taxonomies and further returning at least one sub-category associated with the

4   category and having a non-zero number of entries associated with the sub-category.

1   23. The method according to Claim 22, wherein the method further comprises

2   having further returned sub-categories both associated with the category and having a non-

3   zero number of entries associated with the sub-category, providing, in response to a search request

55

4   identifying at least a second taxonomy of the at least two taxonomies, provide a list of the

5   categories with a non-zero number of entries associated with the at least second identified

6   taxonomy, along with the number of entries associated with each of the categories associated with

7   the at least second identified taxonomy.

1   ~~24.~~ 21   The method according to Claim ~~20~~ 21, wherein the method further comprises

2   returning, in response to a string query, provide those entries which both contain the string

3   and are associated with the identified taxonomy.

1   ~~25.~~ 25   The method according to Claim ~~24~~ 25, wherein the string is one member of the group

2   consisting of text, image, and graphic.

1   ~~26.~~ 21   The method according to Claim ~~20~~ 21, wherein the system comprises a network of

2   computers.

1   ~~27.~~ 21   The method according to Claim ~~20~~ 21, wherein the system comprises a single

2   computer.

1   ~~28.~~ 21   The method according to Claim ~~20~~ 21, wherein the system further comprises a cache

2   which stores the returned results of the means for searching for rapid retrieval.

1   ~~29.~~ 26   The method according to Claim ~~25~~ 26, wherein at least one taxonomy of the at least

2   two taxonomies is selected from the group consisting of organism, biological process, molecular

3   function, species, and cellular component.

1   ~~30.~~ 31   An article of manufacture comprising:

2   a computer usable medium having computer program code means embodied thereon for

3   searching an electronic product catalog, the computer readable program code means in said article

4   of manufacture comprising:

56

5   computer readable program code means for communicating a search request to a search

6   engine, the search engine being in communication with a bioinformatics collection;

7   wherein the bioinformatics collection has at least two entries;

8   wherein the bioinformatics collection is organized into at least two taxonomies;

9   wherein each of the at least two taxonomies is associated with at least two categories;

10   wherein the at least two entries correspond to at least one of the at least two taxonomies

11   and also correspond to at least one of the at least two categories;

12   computer readable program code means for querying of the bioinformatics collection by

13   the search engine based on the communicated search request;

14   wherein a communicated search request identifies at least one of the at least two

15   taxonomies; and

16   computer readable program code means for returning of a list of the categories associated

17   with the at least one identified taxonomy, along with the number of entries associated with each of

18   the categories associated with the at least one identified taxonomy as a response to the querying of

19   the bioinformatics collection.

1   32. 31. The article of manufacture according to Claim 31, 30, wherein the returned list of

2   categories associated with the at least first taxonomy, along with the number of entries associated

3   with each of the categories associated with the identified taxonomies can be further searched with

4   regard to at least a second of the at least two taxonomies, whereby the computer readable program

5   code means for querying of the bioinformatics collection by the search engine returns, in response

6   to a search request identifying the at least second taxonomy of the at least two taxonomies, a list

7   of the categories associated with all identified taxonomies, along with the number of entries

8   associated with each of the categories associated with the at least second taxonomy.

1   32.   The article of manufacture according to Claim 30, wherein the computer readable

2   program code means for querying of the bioinformatics collection by the search engine, having

3   returned, in response to a search request identifying at least a first taxonomy of the at least two

4   taxonomies, a list of the categories associated with the identified taxonomies, along with the

5   number of entries associated with each of the categories associated with the identified

6   taxonomies, will provide only those categories with a non-zero number of entries associated with

7   the identified taxonomies and will further provide sub-categories associated with the category and

8   having a non-zero number of entries associated with the sub-category.

1   33.   The article of manufacture according to Claim 30, wherein the computer readable

2   program code means for querying of the electronic product catalog by the search engine, having

3   further returned sub-categories both associated with the category and having a non-zero number of

4   entries associated with the sub-category, will, in response to a search request identifying at least a

5   second taxonomy of the at least two taxonomies, provide a list of the categories with a non-zero

6   number of entries associated with the at least second identified taxonomy, along with the number

7   of entries associated with each of the categories associated with the at least second identified

8   taxonomy.

1   34.   The article of manufacture according to Claim 33, wherein the means for

2   searching, having returned, in response to a search request identifying at least a first taxonomy of

3   the at least two taxonomies, a list of the categories associated with the identified taxonomies,

4   along with the number of entries associated with each of the categories associated with the

5   identified taxonomy, will, in response to a string query, provide those entries which both contain

6   the string and are associated with the identified taxonomies.

58

1   35. The article of manufacture according to Claim 30, wherein the string is one

2   member of the group consisting of text, image, and graphic.

1   36. The article of manufacture according to Claim 30, wherein at least one taxonomy

2   of the at least two taxonomies is selected from the group consisting of organism, biological

3   process, molecular function, species, and cellular component.